

### **REMARKS**

This Amendment is responsive to the Office Action mailed on April 21, 1999 (Paper No. 5). Entry of this Amendment and reconsideration of the subject application in view thereof are respectfully requested.

### **The Present Invention**

The present invention, as embodied in, for example, independent claim 25 is directed to isolated polynucleotides that possess at least one of two uses, namely (a) a diagnostic reagent and (b) an amino acid encoding sequence. Accordingly, Applicant respectfully points out to the Examiner that the polynucleotides of the instant invention may be useful as diagnostic reagents, e.g. hybridization probes, notwithstanding the fact that any given polynucleotide may not encode a histidine kinase polypeptide. The specification at page 19, line 12 through page 21, line 17 discusses how the polynucleotides of the invention may be used as diagnostic reagents. One skilled in the art would know how to use such diagnostic reagents. Specifically, for example, one skilled in the art would know how to use the polynucleotides of the invention as a diagnostic reagent, e.g. hybridization probe, for the detection of the histidine kinase gene and cells carrying mutations or polymorphisms in the gene of the present invention. Nucleic acids may be detected by a variety of techniques using these nucleic acids, to allow for serotyping, for instance. Specifically, for example, segments can be used as primers in RT-PCR to detect mutations. Moreover, these nucleic acids may be used as hybridization probes where the source of the screened material can be expected to have the same codon usage preferences as *Staphylococcus aureus* or where other codon usages apply.

### **Claims**

Prior claims 1-12, 23 and 24 were pending. Prior claims 13-22 were withdrawn from further consideration as directed to a non-elected invention. Prior claims 1-12, 23 and 24 stood rejected.

Prior claims 1-24 have been canceled without prejudice or disclaimer of the subject matter contained therein. Moreover, the applicant reserves the right to prosecute, in one or more patent applications, the canceled claims, the claims to non-elected inventions, the claims as originally

filed, and any other claims supported by the specification.

New claims 25-58, directed to Group I, have been added. Any alterations made to the claims were made solely to expedite or otherwise facilitate prosecution and were not made nor should they be construed to have been made to overcome any issue of unpatentability of the prior claims.

It is believed that entry of this Amendment will require payment of additional claim fees as set forth in the concurrently filed Fee Calculation Sheet. Applicant hereby authorizes the Commissioner to charge any claim fees required by entry of this Amendment to Deposit Account No. 50-0258.

### **Support**

Support for new claims 25-58 is either apparent, or is as described in the text below. Specifically, support for the recitals of sequence relatedness, such as “a nucleic acid sequence identical to the polynucleotide of (a) except that, over the entire length corresponding to the polynucleotide of (a), up to **thirty** nucleotides are substituted, deleted or inserted for every 100 nucleotides of the polynucleotide of (a)” may be found in the specification at, for example, page 31, line 30 through page 32, line 18. Support for the deposit information recited in the claims may be found in the specification at page 10, lines 3-18. Support for the recital of hybridization conditions may be found in the specification at page 15, line 30 through page 16, line 3. Support for the recitations in claims 57 and 58 may be found in the specification at, for example, page 16, lines 16-18. No new matter is added.

### **Restriction**

Applicant affirms the provisional election of Group I (original claims 1-12, 23 and 24) without traverse. Notwithstanding, Applicant reserves the right to traverse restriction requirements between the other asserted claim groups.

**Claim Rejections Under 35 U.S.C. § 112, Second Paragraph**

Prior claims 1-12, 23 and 24 stood rejected under 35 U.S.C. 112, second paragraph, as indefinite. Specifically, the Examiner asserts that

[t]he term “% identity” in claims 1-3, 23-24 is vague and indefinite. This term has been defined in the specification (page 31, second paragraph). However, the definition provided in the specification is non-specific, because it does not provide a specific software and the associated parameters chose for its execution. The specification merely provides examples of the types of softwares that may be used and the way in which the analysis may be done. Therefore, based on the definition provided in the specification one of ordinary skill in the art cannot determine which specific software and associated analysis parameters to choose in order to arrive at sequence identities claimed. Hence, claims 1 (and its dependent claims 5-12) as well as claims 2-3, 23 and 24 are vague and indefinite.

Without conceding the validity of this rejection, Applicant has elected, solely to expedite prosecution, to present the invention in different terms, which terms should obviate the asserted basis for this rejection. Reconsideration and withdrawal of this rejection are respectfully requested.

**Claim Rejections Under 35 U.S.C. § 102**

Prior claims 12, 21 and 22 stood rejected under 35 U.S.C. § 102 as anticipated by Buchanan et al. (J. Bacteriol. 174, 1717-1725, 1992). Specifically, the Examiner asserts that

[t]he word “fragment” in specification is defined as (see page 11, lines 17-21) as a variant polypeptide having an amino acid sequence that entirely is the same as part but not all of the polypeptides (i.e. SEQ ID NO:s 1-2). Buchanan et al. teach a polypeptide that entirely is the same as part but not all of SEQ ID NO:1 (see their nucleic acids 21789-21796 for perfect match to nucleic acids 156-164 of SEQ ID NO:1 of this invention). Therefore Buchanan et al. anticipate claims 12, 21 and 22 for reciting the word “fragment”.

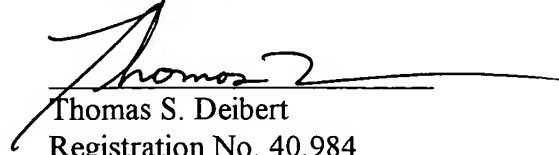
Without conceding the validity of this rejection, Applicant has elected, solely to expedite prosecution, to present the invention in different terms, which terms should obviate the asserted basis for this rejection. Reconsideration and withdrawal of this rejection are respectfully requested.

Closing Remarks

Applicant thanks the Examiner for the Office Action and believes this response to be a full and complete response to such Office Action. Accordingly, favorable reexamination, reconsideration in view of this response and allowance of the pending claims are earnestly solicited.

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Respectfully submitted,

  
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